

Our Reference ITT-321-A US

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Inventors: Tao Nie et al.

Assignee: ITT Manufacturing Enterprises, Inc.

Patent No.: 6,257,281

Issue Date: July 10, 2001

Title: MULTI-LAYER TUBING HAVING AT LEAST ONE INTERMEDIATE LAYER
FORMED FROM A POLYAMIDE ALLOY

STATEMENT OF STATUS/SUPPORT
UNDER 37 C.F.R. SECTION 1.173(c)

Dear Sir:

In support of the application for reissue of the above-captioned patent, the patentee submits herewith its statement indicating the status of the claims, and further identifying support for the claim changes proposed by the preliminary amendment submitted herewith.

I. Status of Claims:

As of the date of this paper, the status of all claims in United States Patent No. 6,257,281 is as follows:

Claims 1- 34, and 36- 44 are pending. Claim 35 is canceled.

II. Support for Amendments:

By the preliminary amendment submitted concurrently with this paper, the patentee proposes to amend claims 1, 6-9, 15, 32-34, and to cancel claim 35. The pertinent claim language comprising the amendments, as well as the supporting language in the specification, are set forth in the following table:

Claim Amendment	Supporting Disclosure
<p>1. (Amended): An elongated multi-layer fuel and vapor tube comprising:</p> <p style="margin-left: 40px;">a first layer disposed radially innermost having an inner surface capable of prolonged exposure to a fluid containing hydrocarbons, the first layer consisting essentially of a melt-processible thermoplastic...selected from the group consisting of polyamides, thermoplastic elastomers, [aromatic] <u>aliphatic</u> polyketones and mixtures thereof...</p> <p style="margin-left: 40px;">...wherein the thermoplastic material of the second layer contains at least one fluoroplastic constituent which is chemically dissimilar from the thermoplastic material of the [third] <u>first</u> layer in alloyed combination therewith....</p>	<p>At col. 6, lines 20-35, the specification recites that the melt-processible thermoplastics which can be employed in the first layer include CARILON, which is an "<i>aliphatic</i> polyketone...." (<i>Emphasis added.</i>)</p> <p>At col. 6, lines 46-59, the specification recites that "[t]he thermoplastic material employed in the second layer 16 has at least one constituent which is chemically dissimilar to the thermoplastic material employed in the <i>first</i> layer." (<i>Emphasis added.</i>)</p>
<p>6. (Amended): The elongated multi-layer tube of claim 2 wherein the thermoplastic material employed in the [first] <u>second</u> layer is selected from the group consisting of fluoroplastics, thermoplastic elastomers, polyamides and mixtures thereof.</p>	<p>At col. 7, lines 10-20, the specification discloses that, in one embodiment, the <i>second</i> layer consists essentially of a fluoroplastic material.</p>
<p>7. (Amended): The elongated multi-layer tube of claim 6 wherein the thermoplastic material of the [first] <u>second</u> layer is a polyamide selected from the group consisting of nylon 11, nylon 12, nylon 6, nylon 6.6, and mixtures thereof.</p>	<p>At col. 7, lines 21-30, the specification discloses that, in another embodiment, the <i>second</i> layer comprises a polyamide selected from the group consisting of nylon 11, nylon 12, nylon 6, nylon 6.6, and mixtures thereof.</p>

<p>8. (Amended): The elongated multi-layer tube of claim 6 wherein the elastomer thermoplastic material of the [first] <u>second</u> layer is a thermoplastic elastomer selected from the group consisting of Sarlink, Kraton, Vichem, Santoprene, and mixtures thereof.</p>	<p>The Abstract states that "[t]he thermoplastic material of the second layer is made up of at least one constituent which is chemically dissimilar from the thermoplastic material employed in the first layer...in combination with a compound which is chemically similar to the thermoplastic material of the first layer such as a thermoplastic elastomer, or a polyamide."</p> <p>At col. 6, lines 20-37, the specification identifies Sarlink, Kraton, Vichem, Santoprene, and mixtures thereof as thermoplastic elastomers which can be employed in the invention.</p>
<p>9. (Amended): The elongated multi-layer tube of claim 6 wherein the thermoplastic material employed in the [first] <u>second</u> layer is a fluoroplastic selected from the group consisting of copolymers of ethylene tetrafluoroethane, polyvinylfluoride, polyvinylidene fluoride and mixtures thereof.</p>	<p>At col. 7, lines 10-20, the specification discloses that, in one embodiment, the <i>second</i> layer consists essentially of a fluoroplastic material.</p>
<p>15. (Amended): An elongated multi-layer tube comprising:</p> <ul style="list-style-type: none"> a first layer... a second layer... a third layer... <p>wherein the thermoplastic material of the second layer contains at least one [fluoroplastic] constituent which is chemically dissimilar from the thermoplastic material of the [third] <u>first</u> layer in alloyed combination therewith....</p>	<p>At col. 6, lines 46-59, the specification recites that "[t]he thermoplastic material employed in the second layer 16 has at least one constituent which is chemically dissimilar to the thermoplastic material employed in the <i>first</i> layer." (<i>Emphasis added.</i>)</p>
<p>32. (Amended): The elongated multi-layer of claim 26 wherein the thermoplastic material employed in the first layer is selected from the group consisting of [fluoroplastics,] thermoplastic elastomers, polyamides and mixtures thereof.</p>	<p>At col. 5, lines 59-67, the specification discloses the group comprising polyamides, thermoplastic elastomers, and mixtures thereof as being preferred thermoplastic constituents of the first layer.</p>

33. (Amended): The elongated multi-layer tube of claim 32 wherein the [thermoplastic material of the first layer is a] polyamide <u>of the second layer</u> is selected from the group consisting of nylon 11, nylon 12, nylon 6, nylon 6.6, and mixtures thereof.	At col. 7, lines 21-30, the specification discloses that, in another embodiment, the second layer comprises a polyamide selected from the group consisting of nylon 11, nylon 12, nylon 6, nylon 6.6, and mixtures thereof.
34. (Amended): The elongated multi-layer tube of claim 32, wherein the [elastomer thermoplastic material of the first layer is a] thermoplastic elastomer <u>of the second layer</u> is selected from the group consisting of Sarlink, Kraton, Vichem, Santoprene, and mixtures thereof.	The Abstract states that "[t]he thermoplastic material of the second layer is made up of at least one constituent which is chemically dissimilar from the thermoplastic material employed in the first layer...in combination with a compound which is chemically similar to the thermoplastic material of the first layer <i>such as a thermoplastic elastomer, or a polyamide.</i> " (<i>Emphasis added.</i>) At col. 6, lines 20-37, the specification identifies Sarlink, Kraton, Vichem, Santoprene, and mixtures thereof as thermoplastic elastomers which can be employed in the invention.
35. (Canceled).	At col. 7, lines 10-20, the specification discloses that, in one embodiment, the <i>second</i> layer consists essentially of a fluoroplastic material.

III. Conclusion:

In light of the foregoing amendments, the patentee respectfully submits that the instant case stands in condition for immediate allowance. Of course, the examiner is invited to contact the patentee's undersigned counsel at (734) 662-0270 with any questions respecting this paper, or if a telephone interview might otherwise expedite prosecution of this case.

Respectfully submitted,

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